SECTION 07724

ROOF HATCHES

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LANL MASTER CONSTRUCTION SPECIFICATION

When editing to suit project, author shall add job specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the LEM discipline POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within "stars" during editing.

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This section includes performance, proprietary, and descriptive type specifications. Edit to avoid conflicting requirements.

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PART 1 GENERAL

1.1 SECTION INCLUDES

A. Prefabricated roof hatches, with [integral support curbs,] operable hardware, and counterflashings [and including [fire] [smoke] rated vents, with release mechanism].

1.2 PERFORMANCE REQUIREMENTS

A. Hatches to withstand live loads as calculated in accordance with ICBO UBC-97 with 40 lb./sq. ft. external live load and negative (uplift) design pressure of 20 lbf/sq ft or greater.

B. Automatic Smoke and Heat Vents: Conform to ICBO UBC-97, NFPA and Life Safety guidelines.

1. Include spring-loaded hinge mechanism and UL listed fusible link for automatic activation at 165 degrees F.

2. Units: Factory Mutual approved.

1.3 SUBMITTALS

A. Submit the following in accordance with Section 01300, Submittals:

1. Catalog Data: Submit data on unit construction, sizes, configuration, jointing methods and locations when applicable, and attachment method.

2. Installation Instructions: Indicate special manufacturer's installation criteria and interface with adjacent components for [*type of roof membrane system*] roof system.

3. Warranty: As specified herein.

PART 2 PRODUCTS

2.1 PRODUCT OPTIONS AND SUBSTITUTIONS:

A. Comply with Section 01630, Product Options and Substitution.

2.2 ROOF HATCHES

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In this article, list manufacturers acceptable for this Project.
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A. Manufacturers:

1. [Babcock-Davis Hatchways] Model[ ].

2. [Bilco] Model[ ].

3. [O'Keeffe's Inc.] Model [ ].

4. [ ]Model[ ].

5. Furnish materials in accordance with Uniform Building Code, ICBO UBC-97.

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Edit subsequent descriptive specifications to identify Project requirements and to eliminate conflict with manufacturers (products) specified above.
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B. Product Description: Manufacturer's standard [aluminum] [zinc-coated steel] [aluminum or zinc-coated steel], with nominal 12 inch high integral curb, double-wall insulated type.

1. Roof Hatches:

a. Single Leaf Personnel Access: Minimum 16 sq. ft. with a minimum dimension of 2'-6". Ladder access [3'-0" X 3'-0" hatch with vertical fixed in place ladder with extendable safety pole][2'-6" x 4'-6" hatch with ships ladder access] [2'-6" x 8'-6" hatch with stair access].

b. Double Leaf Hatch Equipment Access: 6'-0" x 8'-0".

2.3 SMOKE AND HEAT VENTING

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Specify smoke and heat venting when required by applicable codes. Consult with LANL Fire Protection Group.
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1. Smoke and Heat Vents:

a. Single Leaf Type: [4'-0" x 4'-0"] [4'-0" x 5'-0"] [4'-0" x 6'-0"] [4'-0" x 8'-0"].

b. Double Leaf Type: [5'-0" x 5'-0"] [5'-0" x 6'-0"] [6'-0" x 8'-0"].

2.4 COMPONENTS

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Utilize one of the following paragraphs when integral curb is required. When built-up wood curb is required, delete paragraphs A & B.

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A. Integral Steel Curb: Minimum 14 gage prime painted steel with nominal 1 inch rigid [glass fiber] [or] [foam] insulation; full thermal break between inner and outer liners; integral cap flashing to receive roof flashing; extended flange for mounting; 10 inch minimum curb height.

***** [OR] *****

B. Integral Aluminum Curb: Minimum 11 gage mill finished aluminum; nominal 1 inch minimum rigid [glass fiber][or] [foam] insulation; full thermal break between inner and outer liners; integral cap flashing to receive roof flashings; extended flange for mounting; 10 inch minimum curb height.

C. Flush Steel Cover: Minimum 14 gage prime painted steel; nominal 1 inch minimum [glass fiber] [or] [foam] insulation; minimum 22 gage steel interior liner; full thermal break between inner and outer liners; continuous [neoprene] [or] vinyl] gasket to provide weatherproof seal.

***** [OR] *****

D. Flush Aluminum Cover: Minimum 11 gage mill finish aluminum; nominal 1 inch minimum [glass fiber][or] [foam] insulation; minimum 18 gage aluminum interior liner: full thermal break between inner and outer liners; continuous [neoprene] [or] [vinyl] gasket to provide weatherproof seal.

***** [OR] *****

E. Skylight Cover: Double thickness dome, of convex shape; outer dome of translucent polycarbonate; inner dome of [clear] [translucent] [acrylic] [polycarbonate]; full thermal break between inner and outer layers; continuous [neoprene] [or] [vinyl] gasket to provide weatherproof seal.

F. Hardware: Manufacturer’s standard finish:

1. Compression spring operator and shock absorbers.

2. Steel manual pull handle for interior operation.

3. Steel hold open arm with vinyl covered grip handle for easy release.

4. Automatic opening upon break of 160 degree F fusible link [Automatic opening upon activation of [fire] [alarm] system].

5. Padlock hasp to fit padlock with a 3/8 inch shackle.

6. Hinges: Manufacturer's recommended type for specific type of roof hatch.

2.5 ACCESSORIES

A. Anchorage Devices: Type recommended by manufacturer.

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Counterflashings are sometimes required when mounting hatches on wood curb, depending on frame profile. Coordinate with roofing and metal flashing sections accordingly.
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B. Counterflashings: Comply with Section 07620, Sheet Metal Flashing and Trim.

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Specify protective coating appropriate to frame and flashing metal type and compatible with adjacent materials. This coating is also intended to prevent electrolytic reaction with other materials in contact with roof hatch frame.
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C. Protective Coating: Zinc molybdate alkyd.

D. Sealant: Manufacturer's recommended sealant integral with roof hatch installation, nonhardening, nonskinning, nondrying, nonmigrating butyl based sealants.

2.6 FABRICATION

A. Fabricate components free of visual distortion and free of defects. Weld corners and joints.

B. Provide for condensation occurring within components and within assembly to drain to exterior above roofing.

C. Fit components for weather tight assembly.

D. Sloped Roofs: Fabricate roof hatch curbs tapered to maintain hatch top level.

PART 3 EXECUTION

3.1 EXAMINATION

A. If substrate preparation is responsibility of another installer, notify LANL Construction Inspector of unsatisfactory preparation before proceeding.

B. Verify openings and substrate conditions are ready to receive work of this section.

3.2 PREPARATION

A. Apply protective coating on aluminum surfaces of roof hatches in contact with cementitious materials or dissimilar metals.

3.3 INSTALLATION

A. Install curb assembly, fastening securely to roof decking or substrate. Flash curb assembly into roof system.

B. Install roof hatch and secure to curb assembly. Install integral setting sealant and counterflashing as required.

C. Final installation to be watertight assembly.

D. Coordinate with installation of roofing system and related flashings for weather tight installation.

E. Apply bituminous paint on surfaces of units in contact with cementitious materials or dissimilar metals.

F. Adjust hinges for smooth operation.

3.4 FIELD QUALITY CONTROL

A. Verify all aspects of ICBO UBC-97 have been met.

B. Test smoke and heat vents for proper operation.

C. Field verify that final roof waterproofing is properly installed with roof hatch counterflashing.

3.5 CLEANING

A. Wash down exposed surfaces; wipe surfaces clean.

B. Remove excess sealant.

END OF SECTION